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ABSTRACT

The use of overdue notices or threat of encumbrance (the withholding of students' grades until library books are returned) is a common practice in academic libraries. Yet the effectiveness of such policies has seldom been investigated. This study examined a circulation overdue policy, comparing selected variations in that policy. Three levels of the policy were judged critical: Group A, overdue notices and threat of encumbrance; Group B, overdue notices without threat of encumbrance; and Group C, no notice and no threat of encumbrance. The method of study used was a pretest-posttest/delayed post true experimental design, carried out over a 3-week period at the Purdue University General Library. All patrons, who checked out materials for the standard 21-day period, were randomly assigned to one of the three groups. At 28 and 35 days after checkout, the percentage of books still outstanding for each group was compared. It was concluded that overdue notices serve as important reminders and improve the rate of book return. The threat of encumbrance is effective near the due date, though its effect diminishes over time. But the encumbrance system does not appear to have the cumulating and deterring effect of a fines system, where cost to the patron increases, the longer a book is withheld. (SL)

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# OVERDUE POLICIES:

# A COMPARISON OF ALTERNATIVES

By

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Background

Overdue notices are assumed to be a necessary part of library circulation. Howell (1961) reported that college librarians seem to be so firmly committed to the routine of sending frequent overdue notices that it is easy to take for granted that this is an integral part of good library service. The effectiveness of overdue notices in eliciting prompt return of library materials is rarely questioned in library circles. However, a search of library literature produces scant statistical data to support this assumption.

Available data is not concerned with the validity of the overdue notice itself, but with its application regarding timing, frequency, fines, etc. Thus, a gap exists in professional literature with regard to the effectiveness of overdue notices as opposed to no overdue notices. Yet, with this gap in information, there seems to be a general and unquestioned use of overdue notices within many library circulation systems.

In contrast, a great deal of information is available on the subject of fines and their implications. Classed with fines as a common deterrent method is the encumbrance system. Yet in studies of threats of deterrence, little mention is made of encumbrance policies and their effectiveness or ineffectiveness. Differences do exist in the two deterrent methods, but enough similarities in philosophy remain to apply studies of the threat of fines to that of encumbrances.

With few exceptions there seems to be a trend in libraries toward the abolishment of fines (Wilson Library Bulletin 1969). Yet both sides of the fines vs. no fines controversy claim improved book return rates with their respective policies. Howard (1969) reported that the suspension of fines in Vigo County (Indiana) Library improved public relations while the library experienced an increase in lending and a decrease in losses. A review of the literature revealed that

several librarians have reported successful results from the suspension of fines, e.g., Windsor (Ontario) Public Library claimed overdues substantially reduced with the suspension of fines. Out of 18,533 first notices sent, only 2,924 follow-ups were necessary (Library Journal, 1972). A later progress report from Windsor indicated that their first report had been overly optimistic, but they continued to support the basic findings of fewer overdue books following the cessation of fines (Library Journal, 1973).

On the other hand, Tootell (1972) disagrees, stating that while fines should never be used for income, their use is justified to insure prompt return of books. To support his statement, Tootell cites a 75% cut in overdue problems after implementation of a fine system. Thus far the studies cited in reference to deterrence systems have been related to the area of library science. A cursory search of the fields of criminology and psychology resulted in only one pertinent study. The research of Chambliss (1966) on university parking violators supports the deterrence theory behind the encumbrance system. In his study, it was found that when parking meter violations were strictly enforced, the number of frequent offenders decreased significantly. Thus, this research re-enforces the possibility that threat may serve as a viable deterrent for some offenses.

Finally, questions remain since little evidence is available concerning the effects of overdue notices or the threat of encumbrance. Is an overdue notice an effective means of prompting a library user to return or renew library materials? Is a threat of encumbrance an effective method for encouraging students to return library materials nearer the due date?

## Problem

The problem for this study was to examine a circulation overdue policy and to measure and compare differences between selected variations or levels of that

policy. Three levels were judged critical in setting circulation overdue policies, and methods were devised to study them. The three levels of the overdue policy factor were identified and categorized as: Group A, overdue notices and threat of encumbrance; Group B, overdue notices and no threat of encumbrance; and Group C, no overdue notices and no threat of encumbrance. (For purposes of this study, encumbrance was a temporary holdings of students' records so that they would be unable to register or receive a transcript of grades until such time as their library records were cleared.) Thus, answers were sought to four basic questions. What are the effects of non-notification of overdue books? Is the percentage of return for overdue books significantly increased by the distribution of overdue notices and threat of encumbrances? Is the percentage of return for overdue books significantly affected by the receipt of a threat of encumbrance? What effect does an overdue notice and threat of encumbrance have on the rate of book return over time? Since no research evidence was found that indicated which policy produced the highest percentage of return for overdue books, the hypotheses for this study had no directional prediction. The two hypotheses of this study were:

(1) 28-day observation: There will be no significant difference in percentage of return for subjects (Ss) tested under three different treatment conditions: (A) overdue notices and threat of encumbrance, (B) overdue notices only, and (C) no notification, when observed 28 days after checkout.

(2) 35-day observation: There will be no significant difference in percentage of return for Ss tested under three different treatment conditions: (A) overdue notices and threat of encumbrance, (B) overdue notices only, and (C) no notification, when observed 35 days after checkout.

Experimental Design and Procedures

The method selected for testing the hypotheses is described by Campbell and Stanley (1966) as a pretest-posttest-delayed post true experimental design (p. 13). Using their graphic symbols the design model took the following form:

$$\begin{array}{ccccc} R & O_1 & X_a & O_2 & O_3 \\ R & O_4 & X_b & O_5 & O_6 \\ R & O_7 & X_c & O_8 & O_9 \end{array}$$

A more detailed explanation of the design model is in order. The symbol R indicates that each book checkout or transaction was randomly assigned to either treatment group A, B or C. The symbol indicates that an observation has been made. In this study pre-measures or observations of the percentage of books returned, namely, $O_1$, $O_4$, and $O_7$ were made 22 days after checkout. The 22-day observations fell one day after all books were due for the three treatment groups. These observations were essentially pre-measures in that no treatment conditions had been instituted at this time. Post-measures or observations $O_2$, $O_5$, and $O_8$ examined the percentage of books returned 28 days after checkout or one week after all books were due for these three groups. By this time all treatment conditions had been instituted at least six days before these observations were made. Delayed post-measures or observations $O_3$, $O_6$, and $O_9$ examined the percentage of books returned 35 days after checkout or two weeks after all books were due for these three groups. Again, all treatment conditions had been instituted, in this case 13 days before these final observations were made. The symbol X indicates an experimental or treatment variable. In the above design model, the variable $X_a$ (Group A) represents those Ss with overdue books that received an overdue notice card and threat of encumbrance; $X_b$ (Group B) represents those Ss with overdue books that received an overdue notice, but no threat

of encumbrance; $X_c$ (Group C) represents those Ss with overdue books that received no notice of any kind.

Figure 1 further illustrates the design and specifies the number of Ss included in each group for each of the six observations. (For purposes of this study, it was assumed that each book checkout or transaction would represent a unique individual S assigned to a given group. However, when an individual S checked out more than one book at a time, all transactions for that S were randomly assigned to one of the three groups.) It can be seen under the 22-day observation that originally a total of 969 Ss who checked out books were assigned to Group A; Group B was assigned 1524 Ss who checked out books and Group C received 1868 Ss who checked out books. Also listed are the number of Ss who had not returned books after 28 days, i.e., one week after date due and the number of Ss who had not returned books after 35 days, i.e., two weeks after due date.

| | 22-Day Observation<br>Includes total Ss assigned to each group; the percentage of return up to date due was observed and compared for each group. | 28-Day Observation<br>Includes Ss who had not returned books after 22 days; the percentage of return up to 28 days after checkout was observed and compared for each group. | 35-Day Observation<br>Includes Ss who had not returned books after 28 days; the percentage of return up to 35 days after checkout was observed and compared for each group. |
|---|---|---|---|
| Group A (overdue notice and threat of encumbrance) | 969 | 322 | 114 |
| Group B (overdue notice only) | 1524 | 523 | 233 |
| Group C (no overdue notice or threat of encumbrance) | 1868 | 583 | 383 |

Figure 1

Study Design

With the cooperation and help of the staff of the Purdue University General Library, a three-week time period was selected for data collection and arrangements were completed for running the study. All patrons who checked out General Library materials for the standard 21-day loan period would serve as Ss. Upon arrival at the circulation desk with materials for checkout, each of the Ss was randomly assigned to one of the three study conditions. This was handled discreetly by the special numbering and lettering system found on each of the transaction cards.

As briefly mentioned earlier, the procedures progressed in the following manner. Two days after each due date, Ss in Group A were sent an overdue notice which listed the author, title, call number and transaction number of each book. Students received a printed notice indicating the General Library renewals telephone number and a warning of possible encumbrance if the books were not returned. Faculty and other users were included in this group; however, they did not receive a threat of encumbrance. (Eventually for students in Group A, encumbrance proceedings were initiated in the traditional manner three to four weeks after the due date.) Group B Ss received the overdue notices including author, title, call number, transaction number and the General Library renewals telephone number; however, no threat of encumbrance was enclosed. Group C Ss were not sent overdue notices during the study period.

Data for the three groups were tallied on a daily basis. This provided a record of the number of books checked out per day for each group, the number of books not returned by the date, and the number of books remaining on each successive day.

## Statistical Analysis and Results

The statistical analysis used in this study is described by Winer (1962)

as a single-factor analysis of variance (pp. 56-62). The design is such that all the treatments about which inferences are to be made are included in the study. Thus, if the experimenters were to replicate the study, the same treatment conditions would be included for each replication. Also, this design allows for an unequal N size between groups.

An analysis of the data for differences between the means of the three groups was completed. A Summary Table of the analysis of variance test for the 22-day pre-measure or observation was not included in this paper. Essentially, this observation was a check of randomization across all groups. It was made before any treatment conditions were instituted; therefore, no significant differences between groups were expected, and none were found.

The analysis of variance tests for the 28 days and 35-day observation periods are presented in Summary Tables 1 and 2.

As can be seen in Tables 1 and 2, significant differences were found. Once a significant overall F is achieved, it is accepted practice to examine the group means (in this case the percentage of books returned) to find the reason for these effects and to attempt to interpret their meaning. This is termed a post-hoc comparison and is used to evaluate any trends among means. There are several methods available for testing the significance of post-hoc comparisons. For purposes of this study, it was decided that if an overall significant F test were achieved, differences between treatment means would be probed by the Newman-Keuls method.

Table 1

Three-Group Analysis of Variance for Comparison of Return Rate 28 Days After Checkout

| Source of Variation | Mean Squares | df | F-Ratio | P |
|---|---|---|---|---|
| Between Groups | 10.7628 | 2 | 45.763** | .0000 |
| Within Groups | .2352 | 1425 | | |
| Total | .2499 | 1427 | | |

**significant beyond the .01 level (Winer, 1962, pp. 646-647)

Table 2

Three-Group Analysis of Variance for Comparison of Return Rate 35 Days After Checkout

| Source of Variation | Mean Squares | df | F-Ratio | P |
|---|---|---|---|---|
| Between Groups | 1.1805 | 2 | 5.165** | .0062 |
| Within Groups | .2286 | 727 | | |
| Total | .2312 | 729 | | |

**significant beyond the .01 level (Winer, 1962, pp. 646-647)

The first hypothesis tested differences across all three groups 28 days after books were checked out. The analysis of variance of the data for these three groups as illustrated in Table 1, revealed an overall significant difference between the means. Further, the Newman-Keuls test indicated that all pairs of means were significantly different at the .05 level. The data revealed that Ss in Group A (overdue notice and threat of encumbrance) had a significantly higher return rate than Ss in Group B (overdue notice only) or Group C (no overdue notice and no threat of encumbrance). Also, Ss in Group B had a significantly higher return rate than Ss in Group C.

The second hypothesis tested differences across all three groups 35 days after books were checked out. The analysis of variance of the data for these three groups, as illustrated in Table 2, indicated an overall significant difference between the means. Further, the Newman-Keuls test indicated that certain pairs of means were significantly different at the .05 level. The data revealed that Ss in Group A (overdue notice and threat of encumbrance) had a significantly higher return rate than Ss in Group C (no overdue notice and no threat of encumbrance). Also, Ss in Group B (overdue notice only) had a significantly higher return rate than Ss in Group C (no overdue notice and no threat

of encumbrance). However, no significant difference in return rate was found between Ss in Group A (overdue notice and threat of encumbrance) and Ss in Group B (overdue notice only).

Figure 2 graphically displays the book return rate for Ss in each of the three treatment groups. As can be seen, at least 60% of the books had been returned by the 21st day, i.e., the date due. Overdue notices were in the mail on the 24th day, and in most instances received on the 25th or 26th day. Marked differences are illustrated in book return rate for the three treatment groups once overdue notices were received by Ss in Groups A and B. These differences are especially apparent from the 26th day through the 35th day after checkout.

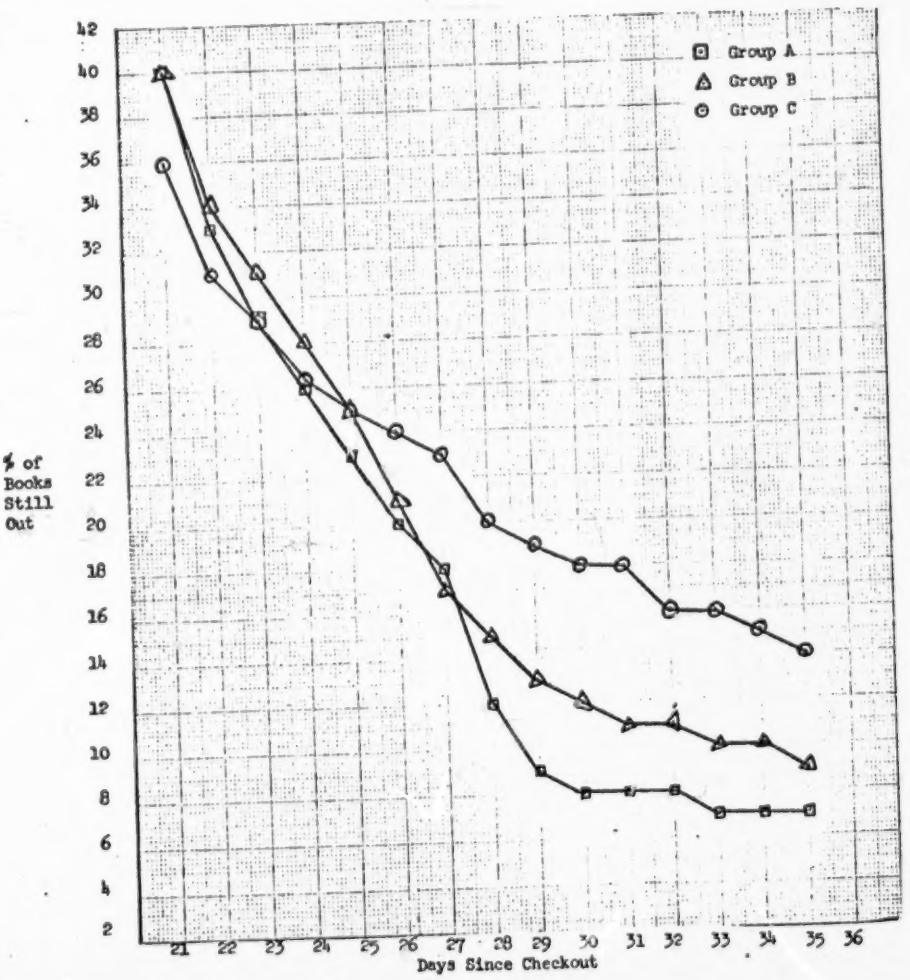


Figure 2
Overdue Book Return Rate

Conclusions

The investigation pursued in this study supports the value of overdue notices. They appear to have an important reminder effect and improve the return rate of overdue books. Thus, under current conditions, an overdue policy is preferable from the standpoint of book availability and improved service to users. The threat of encumbrance is effective in urging students to return library materials near the due date. While the effect of the threat of encumbrance diminishes several days after the receipt of the overdue notice, the encumbrance system does not appear to have the cumulative and deterring effect of a fine system. Users are not deterred from returning long overdue books as they might be under a fine system where costs to users accumulate over time.

Libraries interested in examining the effects of variant overdue policies in their own libraries could do so by replicating the data collection and analysis described above. Librarians unfamiliar with the statistical techniques presented are likely to find that an inspection of the raw data would yield book return trends which would provide helpful guidance in the reconsideration of overdue policies.

The results of this study of the effective uses of overdue notices and book return relate significantly to research findings in the area of availability of materials and user satisfaction. Duplication and varying loan policies, two current means of increasing the availability of materials, are costly in terms of additional volumes, staff time, and library procedural changes. The significance of these findings is enhanced by the fact that the books affected are the books which have been used, and these are on the whole, the books which are likely to be wanted by other readers. Therefore, when librarians seek to improve the quality of the service they are providing

by taking steps to improve the chances that patrons will be able to find the books they seek, they should consider a revision of overdue policies, as well as the more obvious steps of reviewing loan policies and duplication policies. In summary, the overdue notices have an important impact in causing people to return overdue books, and an effective overdue policy can be another means of increasing the availability of materials.

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